Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1.   (Currently Amended) A honeycomb structure comprising: porous partition walls disposed so as to form a plurality of cells extending in an axial direction, wherein defining that a porosity of the partition walls in a central portion of a vertical section with respect to the axial direction of the honeycomb structure is Pi (%) and that a porosity of the partition walls in an outer peripheral portion of the section is Po (%), a relation is Pi < ~~Po.~~Po, wherein the honeycomb structure is a monolithical structure and a difference between Pi (%) and Po is within a range of about 3-10%.

2.   (Original) The honeycomb structure according to claim 1, wherein defining that a pore diameter of the partition walls in the central portion is Di and that a pore diameter of the partition walls in the outer peripheral portion is Do, a relation is Di > Do.

3.   (Currently Amended) The honeycomb structure according to claim 1, ~~wherein~~ wherein defining that a pore diameter of the partition walls in the central portion is Di and that a pore diameter of the partition walls in the outer peripheral portion is Do, the Di and Do have a relation of Di < Do.

4.   (Currently Amended) A honeycomb structure comprising: porous partition walls disposed so as to form a plurality of cells extending in an axial direction, wherein defining that a porosity and a pore diameter of the partition walls in a central portion of a vertical section with respect to the axial direction of the honeycomb structure are Pi (%) and Di and that a porosity and a pore diameter of the partition walls in an outer peripheral portion of the section are Po (%) and Do, relations are Pi > Po and Di < ~~Do.~~Do, wherein the honeycomb structure a is monolithical structure and a difference between Pi (%) and Po is within a range of about 3-10%.

5.   (Original) The honeycomb structure according to claim 1, wherein a predetermined cells are plugged at either of end faces of the honeycomb structure.

6.   (Original) The honeycomb structure according to claim 2, wherein a predetermined cells are plugged at either of end faces of the honeycomb structure.

7.   (Original) The honeycomb structure according to claim 3, wherein a predetermined cells are plugged at either of end faces of the honeycomb structure.

8.   (Original) The honeycomb structure according to claim 4, wherein a predetermined cells are plugged at either of end faces of the honeycomb structure.

9.-16. (Canceled)

17.   (New) The honeycomb structure according to claim 2, wherein defining that a pore diameter of partition walls in an intermediate portion is D_m, the intermediate portion being between the central portion and the outer peripheral portion, a relation is $D_i > D_m > D_o$.